

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 May 2004 (06.05.2004)

PCT

(10) International Publication Number
WO 2004/037905 A1

- (51) International Patent Classification⁷: C08J 7/06, 7/12 (74) Agent: SCHWEIZER, Adrian, Victor, van; c/o Adams & Adams, 3rd Floor, 23 Wellington Road, Parktown, Johannesburg, 2193 Gauteng Province (ZA).
- (21) International Application Number:
PCT/IB2003/004701
- (22) International Filing Date: 23 October 2003 (23.10.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
2002/8671 25 October 2002 (25.10.2002) ZA
2003/1355 18 February 2003 (18.02.2003) ZA
- (71) Applicant (for all designated States except US): SOUTH AFRICAN NUCLEAR ENERGY CORPORATION LIMITED [ZA/ZA]; Pelindaba, District BRITS, 0250 Gauteng Province (ZA).
- (72) Inventors; and
(75) Inventors/Applicants (for US only): LOUW, Izak, de Villiers [ZA/ZA]; 22 Milburn Street, Rynfield, Benoni, Johannesburg, 1501 Gauteng Province (ZA). CARSTENS, Pieter, Andries, Blatt [ZA/ZA]; 474 Handel Street, Constantia Park, Pretoria, 0181 Gauteng Province (ZA).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: " OXYFLUORINATION "

(57) **Abstract:** The invention provides a process for the activation by oxyfluorination of at least part of a surface of a solid, which process includes exposing, under selected conditions of temperature and pressure and for a selected reaction time, at least part of the surface of the material of the solid to an oxfluorinating atmosphere. The oxyfluorinating atmosphere is a gas/ vapour mixture which includes at least one fluorine-containing gas which reacts with the material of the exposed surface, at least one oxygen-containing gas which reacts with the material of the exposed surface, and water vapour. The gases in the oxyfluorinating atmosphere act to oxyfluorinate the exposed surface, thereby to activate it, and the water vapour acts to enhance the activation.

WO 2004/037905 A1